



July 22, 2014

US EPA Region 10
Manager, Office of NPDES Compliance Unit
1200 Sixth Avenue, OCE-133
Seattle, Washington 98101

**RE: NPDES # WA-002666-2, Best Management Practices Plan – July, 2014 -
ELWHA WATER TREATMENT PLANT**

Attn: Jeff Kenknight

As noted in the NPDES requirements of the special conditions section part B for Best Management Practices Plan. The BMP committee certifies that the review of the BMP Plan meets the requirements of NPDES permit.

The report is being submitted by Veolia Water North America (VWNA) Operating Services on behalf of the US Department of interior, Bureau of Reclamation.

Please contact me if you have any questions or comments regarding this certification.

Sincerely,

A handwritten signature in black ink, appearing to read "Patrick Udch".

Patrick Udch, Ph.D.
Project Manager

A handwritten signature in black ink, appearing to read "Sephora Harman".

Sephora Harman
Co-Chairman

James Baxley
Committee Member

Bruce Dorcy
Committee Member

CC: Tracy Gilchrist, NPS

Enclosures:
BMP Plan, July, 2014; (90 pages)



Best Management Practice
Plan
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ELWHA WATER TREATMENT PLANT
NPDES Permit No. WA-002666-2

Prepared by: Ron Cornmesser, Veolia Water North America, Technical Services
Manager

Updated by: John P. O'Hare, Veolia Water North America, Environmental & Compliance

BMP Plan
Elwha Water Treatment Plant
NPDES Permit No. WA-002666-2

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BMP Plan Elwha Water Treatment Plant

I. Introduction

The Elwha Water Treatment Plant is designed to intake water from the Elwha River with high solids content, remove the solids to acceptable levels, and distribute the treated water to municipal and industrial facilities for further treatment prior to use. This water treatment is needed to accommodate existing user demand while two dams are removed from the river upstream of the water treatment plant. The removal of the two dams will result in the release of high levels of sediment that will interfere with the existing water users downstream. This BMP Plan is intended to meet the requirements of Section II.B. of NPDES Permit Number WA-002666-2 issued to the US Department of the Interior, Bureau of Reclamation.

A. Purpose: The Best Management Practices provided in this plan are intended to provide guidance to the treatment plant operators to control or abate the generation and the potential for the release of pollutants from the facility to the waters of the state through normal and ancillary activities. It is not the intent of this BMP Plan to replace or supersede the obligations, responsibilities, or action plans prepared as part of an Accidental Spill Response Planning or Standard Operating Procedures (SOP) for the proper startup, shutdown, and normal operations of the treatment plant and its systems. It is not intended to replace best management practices to be used during new construction or major plant maintenance. It is assumed that these activities all have their own special protocols and plans that address the specifics of the planned activities.

B. Objectives:

1. Minimize by the plant operators, to the extent feasible, the number of pollutants; the quantity of those pollutants; and the toxicity of the effluent discharged from each waste stream in the most appropriate manner.
2. Assure proper operation and maintenance of the water management and treatment systems through the use of good and acceptable engineering practices.
3. Identify waste minimization opportunities by performing risk assessments of each component and system for its potential for causing a release of significant amounts of pollutants to waters of the United States due to equipment failure, improper operation, and/or natural phenomena. Risk assessments must include all normal operations and ancillary activities including material storage

areas, storm water, in-plant transfer, material handling and process handling areas, loading or unloading operations, spillage or leaks, sludge and waste disposal, or drainage from raw material storage.

II. Policy Statement

As the contract operator of the Elwha Water Treatment Plant, Veolia Water North America is in full support of the best management practices of this plan. It is Veolia Water's policy that the project personnel be assigned as members of the BMP Committee; ongoing development and revision of the BMPs as appropriate; full implementation of the BMP Plan; training of all project personnel in the implementation of the BMP Plan; and the reporting and documentation requirements as specified in the plan. It is the company's policy that the Project Manager provides sufficient staffing, training, and equipment needed to fully implement this plan. The Project Manager shall provide a budget line item to provide sufficient funding for performance of the BMP committee and the implementation of the BMP Plan not covered by normal budgeting.

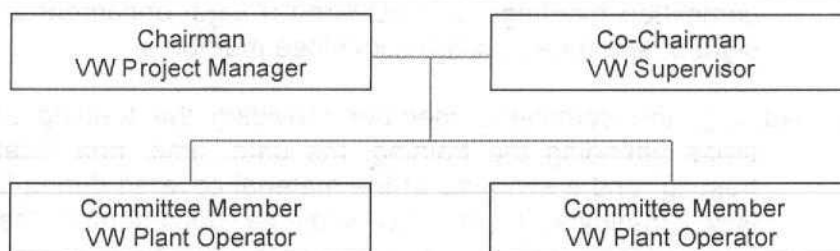
III. Best Management Practices Committee

Although the Elwha Water Treatment Plant is capable of treating large volumes of water, the treatment processes are automated allowing a small staff of operators to fully operate the facility. At the current staffing level of one project manager and six operators, the BMP Committee is limited to four (4) members.

A. Committee Structure

The BMP Committee shall be composed of the Project Manager, Supervisor, and two plant operators. The Project Manager shall act as the committee chairman, the Supervisor shall act as the co-chairman, and the two plant operators shall be the committee members. The committee may change in structure in the future by revising this section and following the BMP Plan modification protocols provided in this plan.

BMP Committee Organizational Chart



B. Committee Function

The function of the committee is to develop, implement, perform annual reviews based on established criteria, documentation of findings, provide training, and maintain the BMP Plan.

1. Committee Chairman – is responsible for the scheduling of committee meetings; assignment of duties to the committee members; preparation of routine and non-routine reports as specified in the BMP Plan; and to attend program audits. The chairman is responsible for working with the committee members to develop and revise BMPs and SOPs that are needed for the BMP Plan.
2. Committee Members – are responsible for the implementation of the BMP Plan, providing routine training and new employee orientations. The committee members shall participate in program reviews, development of revisions to the plan, data gathering for routine and non-routine reports, and developing strategies and protocols to resolve issues identified in the BMP plan and/or protocols.

C. Committee Procedures

1. Routine Committee Meetings: The committee shall, at a minimum, meet on a quarterly basis. The meeting shall be held during normal working hours and shall be led by the committee chairman. Routine Committee Meetings must have a minimum of two members to qualify as a meeting. Notes shall be taken during the meeting and a summary of the committee meeting shall be prepared and filed in a permanent file to be retained with the project files, in accordance with the recordkeeping protocols of Veolia Water. The summary of committee meetings is considered a legal document and shall be signed, and dated, by the committee members.
2. Training: the committee member providing the training shall record those attending the training, the date, time, and location of the training, and a synopsis of the material covered during the training. New Employee Orientation shall be documented the same as routine training. Training records are considered legal documents

and shall be retained in accordance with Veolia Water recordkeeping protocols.

3. Annual Review of BMP Plan: the committee shall review the BMP Plan, at a minimum of once per year. A list of recommended changes shall be prepared and the committee chairman shall assign members to work on the revisions. The Project Manager may seek technical support from Veolia Water Corporate resources to facilitate the recommended revisions. Revisions made under the annual review shall follow the protocols established in this plan for modifying the plan.

4. Report preparations: the committee members shall assist the committee chairman in gathering the information required in routine and non-routine reports as specified in this plan. The chairman is responsible for assembly of the report and submittal of the report to the appropriate parties. If in the future the project manager is no longer the committee chairman, the project manager is responsible for submittal of all reports, not the committee chairman. However, it is the committee chairman's responsibility that the report is properly prepared and ready for submittal by the Project Manager.

5. Committee Member Terms: if in the future additional staff is used at the facility, the committee structure will not change without modifying the plan. If additional staff is available, the committee members shall serve on the committee for a period of two (2) years. The committee members are eligible for serving as the committee chairman. The committee chairman shall serve for a period of two (2) years and may be re-assigned as the chairman if no other members are considered qualified to perform as the chairman. The plant staff must serve at least one term as a committee member before being eligible to serve as chairman. The project manager may serve as the committee chairman without prior service as a committee member. The project manager may serve as a committee member.

6. Assignment to the BMP Committee: committee membership is not an elected position but an assignment of duties by the project manager. Staff may volunteer to serve on the committee but it is the decision of the project manager to assign the committee members. It is the policy of Veolia Water that all employees serve on the committee at some time during their careers with Veolia Water.

IV. Risk Identification and Assessment

Before identifying specific pollutants and/or compounds that will make up the list of potential pollutants that could be released from the Elwha Water Treatment Plant, an assessment of the treatment systems and the grounds of the facility must be performed. The risk assessment will identify all treatment systems and ancillary systems that are used at the plant and other activities that could create an adverse discharge from the facility.

A. Treatment Systems

The Elwha Water Treatment Plant utilizes sedimentation processes to remove solids from the influent water. The sedimentation process uses chemicals to adjust pH and to coagulate the solids in the water to accelerate and improve the settling process. The risk assessment is not intended to provide detailed operating protocols but to assess the potential chemicals that could be released and the most likely areas or systems from which a chemical release could occur.

- (1) Untreated, Partially Treated, and Treated Water could be released from piping, pumps, valves, and tankage. This water is not considered hazardous water at any point in the treatment process but could constitute a problem of washing other materials to the Stormwater system in the event of a release.
- (2) Process Chemicals: These chemicals are listed in paragraph C of this section and their storage and handling risk assessment is discussed in paragraph C. The treatment systems also constitute potential areas from which these chemicals (acids, caustics, organic polymers and coagulants) could be released. A release from a pump, valve, or piping is usually not of comparable volumes as from a storage tank, but a significant release can occur at any of these types of equipment. Treatment tanks such as a mixing tank or a sedimentation tank are also potential risks of releases of these chemicals, however, the concentrations of the treatment chemicals in the actual process tanks is typically very diluted and a release from the treatment process tanks should not be considered any more than a similar release of the partially treated water.
- (3) Other liquids used in the treatment processes are the lubricating oils and greases associated with motors, pumps, and other moving equipment. Typically, these liquids are not used in large volume and are usually not a significant release risk providing the waste oils and greases are properly collected and disposed of using approved means.

B. Emergency Electrical Generation

- (1) Diesel Fuel – Storage and the materials handling during the fuel delivery and transfer is a significant risk of chemical releases.

C. Bulk Materials Handling and Storage

- (1) Chemicals On-site – The following chemicals are used in the treatment process as discussed in paragraph A of this section:

- Sulfuric Acid,
- Caustic Soda (Sodium Hydroxide),
- Aluminum Chloride Coagulant (Powdered Activated Carbon (PAC))
- Polymer (This chemical is no longer in use and is in the process of being properly disposed of)
- Sodium Hypochlorite

- (2) Bulk Materials Handling - chemicals may be received as a dry material or as a liquid material. In most cases, the EWTP uses liquid materials. The transfer of bulk liquids constitutes a significant risk for a chemical release due to the temporary connections to transfer piping, valves, and pumps.

- (3) Bulk Materials Storage – chemicals that are stored in bulk tanks are considered a significant risk due to the potential of a tank failure. Dry material storage is also considered a significant risk if the materials are exposed to weather or other potential water or liquid releases.

- (4) Lubricating Oils – Storage of lubricating oils in drums may create a significant risk. Materials handling while performing maintenance could pose a minor risk and spills should not be allowed to accumulate overtime.

D. Building Maintenance

Building maintenance is an ongoing activity and will present varying levels of risk depending on the actual activity that is occurring. The following are samples of some of the activities that may present risks of chemical releases:

- Pressure Washing Wastewater
- Painting
- Roof & Siding Repair
- Applying Pesticides

E. Landscape & Lawn Maintenance

Landscape and lawn maintenance are ongoing activities and will present varying levels of risk depending on the actual activity that is occurring. The following are samples of the activities that may present risks of chemical releases:

- Lawnmower Fuel & Oil Spills
- Applying Herbicides
- Applying Fertilizers
- Green Waste (grass clippings, shrub & tree trimming)
- Sidewalk Ice Removal

F. Parking and Paved Roadways

Although a large parking lot is not an issue at the EWTP, there will be designated parking areas and at times there will be heavy equipment parked on the facility grounds. Included with the risk assessment for parking areas should be issues related to asphalt roadways within the facility. Any asphalt or concrete pad located adjacent to a building or structure should also be included when assessing the risk potential. The chemicals with the highest potential to be released from these areas are as follows:

- Oil leaks and spills from engines, gearboxes, brake and hydraulic systems
- Engine coolant leaks and spills
- Fuel Spills from leaks and spills
- Asphalt related oils and tar

G. Mobile Equipment Repair

The EWTP is not considered a repair facility however, repair and maintenance is a major activity at this facility. Mobile pumps, generators, and heavy equipment (trucks, backhoes, etc.). The risk assessment for this activity should consider the following potential releases of oils, grease, fuels, coolants, and solvents.

- Oil leaks and spills
- Fuel leaks and spills
- Coolant leaks and spills
- Pressure washing – cleaner solvents/detergents, oils, and grease
- Parts cleaning solvents, oils, and grease

V. Standard Operating Procedures

A Standard Operating Procedure (SOP) is a written instruction specifying the detailed actions to be taken to accomplish a process or a procedure. SOPs should be carried out without any deviation or modification to guarantee the expected outcome. SOPs are laid out in an SOP manual and are reviewed by the operators prior to performing the operation. SOPs are the basis for routine training of employees. SOPs are routinely reviewed and revised to accommodate changes in regulations, process control goals, equipment changes, etc. The SOPs that impact this BMP Plan are also the SOPs that are written for the operation of the systems of the EWTP.

The BMP Committee should review plant SOPs as they are developed and/or revised to assure they include provisions to deal with the issues covered under the BMPs associated with the operations of the systems for which the SOP is written. It is not the goal of this Plan to create conflicting or duplicate SOPs for the same plant systems.

VI. Best Management Practices

Best Management Practices (BMPs) are effective, practical, structural or nonstructural methods which prevent or reduce the movement of sediment, nutrients, pesticides and other pollutants from the land to surface water, or which otherwise protect water quality from potential adverse effects.

BMPs offer flexibility in their application and guidance for site specific controls of potential pollution. With each situation encountered, there may be more than one correct BMP for reducing or controlling potential pollution. Care must also be taken to select BMPs that are practical and economical while maintaining both water quality and the productivity of the facility.

A BMP varies from an SOP in that the SOP is very narrow in focus and deals with specific tasks in a step wise progression. A BMP provides a more broad approach and allows flexibility in the implementation to achieve the goal of the BMP. A BMP may consist of management actions, technology or installation of hard structures to achieve the goals of the BMP, or it may consist of multiple SOPs to be used by the plant operators to prevent the release of pollutants to the surface waters or the land.

The BMP Plan is a BMP, in that it establishes the use of BMPs to reduce or eliminate the release of pollutants and compounds. The BMPs contained in this plan are more focused on specific types of activities that are conducted at the EWTP on a regular basis, or infrequently as the need demands. The plant operators and management must utilize the SOPs developed for plant operations to accomplish all of the activities for which these BMPs are written. If a conflict

between the SOP and the BMP if found, it is the BMP Committee's duty to resolve the conflict so that the plant can be operated efficiently and economically while attaining all the goals of both the plant and the BMP.

Specific BMPs have been prepared for use under the BMP Plan. These specific BMPs are provided in Attachment A of the plan. The specific BMPs will be reviewed annually by the Committee and revised as needed. Additional BMPs may be developed as needed and shall follow the protocols for modification of the BMP Plan and the development and implementation of new specific BMPs.

VII. Reserved

VIII. Incident Reporting

Operators discovering a spill or a leak shall report the incident immediately to their supervisor. If the spill meets the reporting criteria as a hazardous chemical spill, the appropriate reporting protocols specified under the facility Emergency Response Plan shall be followed. The activation of this plan shall supersede this BMP Plan.

Once the initial response and verbal reports are provided, a written Incident Report shall be prepared. This written report is the responsibility of the most senior operator discovering the incident or the operator taking control of the incident. The project manager is responsible for assuring the reports are completed in a timely manner and that the reports are complete and accurate. Attachment B provides a standardized form for use in reporting a BMP incident. Additional pages should be added and any data collected relating to the incident must be attached to the report. All incident reports shall become a part of the permanent record and are considered a legal document and should be handled in accordance with the Veolia Water recordkeeping protocols. The reports must include a description of the circumstances leading to the incident, corrective actions taken and recommended changes to operating and maintenance practices to prevent recurrence.

IX. Material Compatibility

When storing materials, either temporarily or on a regular basis, consideration of the material being stored and its compatibility with those materials near, or in the same containment or storm impact zone should be reviewed. Incompatible materials, such as strong acids and caustics could result in violent reactions should they come into contact. Occupational Safety and Health Administration (OSHA) guidance and Safety Data Sheet (SDS) should be reviewed to assure

compatibility of materials. Inspections should check that incompatible materials are not stored in the same containment area or storm impact zone.

X. Good Housekeeping

Good Housekeeping is the core practice applicable to all BMPs. All areas must be maintained in a clean, debris and clutter free condition. This is to prevent spilled liquids and materials from being lost to the environment and/or stormwater system. BMP's allow for effective containment and recover of spilled materials. Good housekeeping allows operators to identify new problems such as, leaks and equipment damage that could be concealed by clutter. Good housekeeping also eliminates places that disease and vermin can breed and spread. It is Veolia Water's policy that good housekeeping practices be implemented in all areas, of all facilities, at all times.

Facility clean-up will be completed without water whenever possible, by sweeping, vacuum, berming, or wiping. When water is necessary mopping is preferred over wash down of the area. When wash down is necessary it should be accomplished with as little water as possible.

The storm water conveyance system will be kept clear of debris and litter to avoid blockage that may cause storm water to back up and to avoid the discharge of illicit materials.

Storm drain inlets will be cleaned regularly to remove sediment and debris. Inlets will be inspected after each large storm to remove debris, and determine whether additional facility BMPs may be required.

XI. Inspections

(1) Annual Site Inspection

The facility manager or the Stormwater Pollution Prevention (SWP2) Team Leader shall inspect the entire facility a minimum once per year. This inspection shall be completed prior to March 1st of each year. The Annual Site Inspection Form Provided in Attachment C of this plan shall be used to document and report the results of the annual inspection.

(2) Non-Storm Water Discharge Visual Inspection

The facility manager, the BMP Committee, or a qualified operator shall inspect the facility for non-storm water or illicit discharges. A copy of the Non-Storm Water Inspection form is provided in Attachment D of this plan. The intent of this

inspection is to identify discharges that are occurring during dry weather when storm run-off is not present. This provides an opportunity to determine the source of the water and the quality of the water. If the water source is persistent and needed, then appropriate quality and authority to discharge should be pursued. If the water discharge is not persistent or not needed, then the water discharge should be halted.

(3) Storm Water Discharge Visual Inspection

The facility manager, the BMP Committee, or a qualified operator shall inspect the facility during the first significant rainfall for storm water discharges. A copy of the Annual Storm Water Inspection form is provided in Attachment E of this plan. The intent of this inspection is to identify discharges that are occurring during wet weather when storm run-off is present. This provides an opportunity to determine the volume, visual quality, and discharge points for storm water run-off. If significant volumes of run off occur, it may become necessary to conduct sampling to determine the quality of the discharge. BMPs that have been implemented should be considered when inspecting the actual water discharged during a storm event.

XII. Preventative Maintenance and Repair

Veolia Water utilizes computer based maintenance management programs that include the scheduling and documentation of all preventative and corrective maintenance and repairs for the facility. All preventative maintenance and repairs shall be scheduled, and completed in a timely manner. It is not within the scope of the BMP Plan to duplicate or supersede the Maintenance Management Program. The BMP Committee shall participate in the maintenance management and performance of the maintenance and shall provide input to the program to include all BMP maintenance requirements.

XIII. Security

Veolia Water has developed and implemented a Facility Security Plan. The BMP Plan shall defer to the Facility Security Plan. The BMP Committee shall participate in the Facility Security Plan development and implementation and shall provide guidance for inclusion of BMP issues into the Facility Security Plan.

XIV. Training

- (1) New Employee Training – as new employees start working for Veolia Water the new employee is provided an Orientation Training. This training includes process and process control, safety, employee benefits, business ethics, SOP and BMP training. All new employees shall be provided copies of the BMP Plan and shall receive orientation training. As the employee completes BMP training, the employee shall sign and date the BMP Sign Off Sheet.
- (2) Refresher Training – employees shall attend classroom training provided by the BMP Committee on all BMPs of the BMP Plan. As the employee completes BMP refresher training, the employee shall sign and date the BMP Sign Off Sheet.
- (3) Revision Training – as the BMPs are revised, the BMP Committee shall hold classroom training for the employees covering the revisions to the BMP. As the employee completes BMP revision training, the employee shall sign and date the BMP Sign Off Sheet.

XV. Recordkeeping

- (1) The permittee must maintain a copy of the BMP Plan at the facility and make it available to EPA, Department of Ecology, or an authorized representative upon request.
- (2) Copies of inspection reports, incident reports, and annual certification reports shall be retained on file for a minimum of 5 years. Veolia Water has corporate recordkeeping policies and protocols. All records of the BMP Plan shall adhere to those corporate policies.

XVI. BMP Plan Review

Annual review of BMP Plan must be completed by the Plant Manager and the BMP Committee.

XVII. Reporting

- (1) Certification. The BMP Committee must certify that they have reviewed the BMP Plan and Specific BMPs by signing and dating a certification statement that the above reviews of Part XVI of the plan have been completed and that the BMP Plan fulfills the requirements set forth in this permit. The statement must be certified by the dated signatures of each BMP Committee member. The statement must be submitted to EPA and Department of Ecology on or before the

anniversary of the effective date of the permit for each year of operation under the NPDES permit.

- (2) The initial BMP certification statement must be submitted to EPA and Department of Ecology six (6) months after submittal of the BMP Plan.

XVIII. BMP Plan Modification

(1) When to Modify a BMP or the BMP Plan:

- a) The BMP Committee must amend the BMP Plan whenever there is a change in the facility or in the operation of the facility which materially increases the generation of pollutants or their release or potential release to surface waters. A change that reduces the pollutants generated may also require a change to the BMP Plan to facilitate the continuation of the practices that lead to the pollutant reduction.
- b) The BMP Committee must amend the BMP Plan whenever it is found to be ineffective in achieving the general objective of preventing and minimizing the generation and the potential for the release of pollutants from the facility to the waters of the United States and/or the specific requirements above.
- c) Any changes to the BMP Plan must be consistent with the objectives and specific requirements of the BMP Plan and BMP Requirements of the NPDES Permit. All changes in the BMP Plan must be reported to EPA Region 10 with the annual certification required under Part II.B.4.c. of the NPDES Permit.

XIX. Site Diagrams

Diagrams and maps of the EWTP are provided in Attachment F of the BMP Plan.

Part XV of the BMP Plan Requirements of the NPDES permit read as follows: The BMP Plan must include "Final constructed site plans, drawings and maps (including detailed storm water outfall/culvert configurations)."

Attachment A Specific BMPs



Elwha Water Treatment Plant

Best Management Practice - 01

LANDSCAPE MAINTENANCE

Description:

Landscape maintenance activities include lawn mowing, vegetation removal, herbicide and insecticide application, fertilizer application, watering, and other gardening and lawn care practices. Vegetation control typically involves a combination of chemical (herbicide) application and mechanical methods. All of these maintenance practices have the potential to contribute pollutants to the storm drain system.

Objective/Goal:

The major objectives of this BMP are to

- Minimize the discharge of pesticides, herbicides and fertilizers to the storm drain system and receiving waters;
- Prevent the disposal of landscape waste into the storm drain system by collecting and properly disposing of clippings and cuttings, and educating employees.

Approach

(1) Pollution Prevention

- Maintain the integrated pest management program which is a sustainable approach to managing pests by combining biological, cultural, physical, and chemical tools.
- Choose low water using flowers, trees, shrubs, and groundcover.
- Consider alternative landscaping techniques such as naturescaping and xeriscaping.
- Conduct appropriate maintenance (i.e. properly timed fertilizing, weeding, pest control, and pruning) to help preserve the landscape's water efficiency.
- Practice grass cycling (the natural recycling of grass by leaving the clippings on the lawn when mowing. Grass clippings decompose quickly and release valuable nutrients back into the lawn).

(2) Mowing, Trimming, and Weeding

- Whenever possible use mechanical methods of vegetation removal (e.g. mowing with tractor type or push mowers, hand cutting with gas or electric powered weed trimmers) rather than applying herbicides. Use hand weeding where practical.
- Avoid loosening the soil when conducting mechanical or manual weed control, as this could lead to erosion. Use mulch or other erosion control measures when soils are exposed.

- Perform mowing at optimal times. Mowing should not be performed if significant rain events are predicted.
- Mulching mowers is recommended for certain flat areas. Other techniques may be employed to minimize mowing such as selective vegetative planting using low maintenance grasses and shrubs.
- Collect lawn and garden clippings, pruning waste, tree trimmings, and weeds. Chip if necessary, and compost or dispose of at a landfill.
- Place temporarily stockpiled material away from watercourses, and berm or cover stockpiles to prevent material releases to storm drains.

(3) Planting

- Determine existing native vegetation features (location, species, size, function, and importance) and consider the feasibility of protecting them. Consider elements such as their effect on drainage and erosion, hardiness, maintenance requirements, and possible conflicts between preserving vegetation and the resulting maintenance needs.
- Retain and/or plant selected native vegetation whose features are determined to be beneficial, where feasible. Native vegetation usually requires less maintenance (e.g., irrigation, fertilizer) than planting new vegetation.
- Consider using low water use groundcovers when planting or replanting.

(4) Waste Management

- Compost leaves, sticks, or other collected vegetation or dispose of at a permitted landfill. Do not dispose of collected vegetation into waterways or storm drainage systems.
- Place temporarily stockpiled material away from watercourses and storm drain inlets, and berm or cover stockpiles to prevent material releases to the storm drain system.
- Avoid landscape wastes in and around storm drain inlets by either using bagging equipment or by manually picking up the material.

(5) Irrigation

- Where practical, use automatic timers to minimize runoff.
- Use popup sprinkler heads in areas with a lot of activity or where there is a chance the pipes may be broken. Consider the use of mechanisms that reduce water flow to sprinkler heads if broken.
- Ensure that there is no runoff from the landscaped area(s) if re-claimed water is used for irrigation.
- If bailing of muddy water is required (e.g. when repairing a water line leak), do not put it in the storm drain; pour it over landscaped areas.

- Irrigate slowly or pulse irrigate to prevent runoff and then only irrigate as much as is needed.
- Apply water at rates that do not exceed the infiltration rate of the soil.

(6) Fertilizer and Pesticide Management

- Utilize a comprehensive management system that incorporates integrated pest management (IPM) techniques. There are many methods and types of IPM, including the following:
 - Mulching can be used to prevent weeds where turf is absent, fencing installed to keep rodents out, and netting used to keep birds and insects away from leaves and fruit.
 - Visible insects can be removed by hand (with gloves or tweezers) and placed in soapy water or vegetable oil. Alternatively, insects can be sprayed off the plant with water or in some cases vacuumed off of larger plants.
 - Store-bought traps, such as species-specific, pheromone-based traps or colored sticky cards, can be used.
 - Slugs can be trapped in small cups filled with beer that are set in the ground so the slugs can get in easily.
 - In cases where microscopic parasites, such as bacteria and fungi, are causing damage to plants, the affected plant material can be removed and disposed of (pruning equipment should be disinfected with bleach to prevent spreading the disease organism).
 - Small mammals and birds can be excluded using fences, netting, and tree trunk guards.
 - Beneficial organisms, such as bats, birds, green lacewings, ladybugs, praying mantis, ground beetles, parasitic nematodes, trichogramma wasps, seed head weevils, and spiders that prey on detrimental pest species can be promoted.
- Follow all federal, state, and local laws and regulations governing the use, storage, and disposal of fertilizers and pesticides and training of applicators and pest control advisors.
- Use pesticides only if there is an actual pest problem (not on a regular preventative schedule).
- Do not use pesticides if rain is expected. Apply pesticides only when wind speeds are low (less than 5 mph).
- Do not mix or prepare pesticides for application near storm drains.
- Prepare the minimum amount of pesticide needed for the job and use the lowest rate that will effectively control the pest.
- Employ techniques to minimize off-target application (e.g. spray drift) of pesticides, including consideration of alternative application techniques.
- Fertilizers should be worked into the soil rather than dumped or broadcast onto the surface.
- Calibrate fertilizer and pesticide application equipment to avoid excessive application.

- Periodically test soils for determining proper fertilizer use.
- Sweep pavement and sidewalk if fertilizer is spilled on these surfaces before applying irrigation water.
- Purchase only the amount of pesticide that you can reasonably use in a given time period (month or year depending on the product).
- Triple rinse containers, and use rinse water as product. Dispose of unused pesticide as hazardous waste.
- Dispose of empty pesticide containers according to the instructions on the container label.

(7) Inspection

- Inspect irrigation system periodically to ensure that the right amount of water is being applied and that excessive runoff is not occurring. Minimize excess watering, and repair leaks in the irrigation system as soon as they are observed.
- Inspect pesticide/fertilizer equipment and transportation vehicles daily.

(8) Other Considerations

- The Federal Pesticide, Fungicide, and Rodenticide Act places strict controls over pesticide application and handling and specify training, annual refresher, and testing requirements. The regulations generally cover a list of approved pesticides and selected uses, updated regularly, general application information, equipment use and maintenance procedures, and record keeping.
- The Washington State and County Agricultural Agencies coordinate and maintain the licensing and certification programs. All public agency employees who apply pesticides and herbicides in "agricultural use" areas such as parks, golf courses, rights-of-way and recreation areas should be properly certified in accordance with state regulations. Contracts for landscape maintenance should include similar requirements.
- All employees who handle pesticides should be familiar with the most recent safety data sheet (SDS) files.



Best Management Practice - 01
LANDSCAPE MAINTENANCE

CERTIFICATION

The Best Management Practice, BMP-01 Landscape Maintenance is the official policy of Veolia Water North America, West-LLC. Inc. for the Elwha Water Treatment Plant.

Certified this Date: _____

Certified by: _____ Title: _____

Approved by BMP Committee:

Approved by: _____ Title: _____

BMP Created by: Ron Cornmesser, Veolia Water Technical Services Date: 10/19/09
BMP Revised by: John P. O'Hare, Veolia Water North America, Environmental & Compliance Date: 07/15/14

BMP Reviewed by BMP Committee:

Reviewer	Date:

Best Management Practice - 01

LANDSCAPE MAINTENANCE

SIGN OFF SHEET

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Elwha Water Treatment Plant

Best Management Practice - 02

PARKING AND ROADWAY AREA MAINTENANCE

Description:

Parking areas and paved roadways can contribute a number of substances, such as trash, suspended solids, hydrocarbons, oil and grease, and heavy metals that can enter receiving waters through storm water runoff or non-storm water discharges.

Objective/Goals:

This BMP is intended to prevent or reduce the discharge of pollutants from parking areas and paved roadways.

Approach:

(1) The following practices are focused on using good housekeeping practices, utilizing natural structures and training employees.

- Keep all parking areas clean and orderly.
 - Remove debris in a timely fashion
 - Control Litter
 - Provide trash receptacles in or near parking areas to discourage litter.
 - Clean out and cover litter receptacles frequently to prevent spillage.
 - Post signs where and when appropriate to remind guests and employees not to litter.
 - Routinely sweep, shovel and dispose of litter in the trash. Use dry cleaning methods (e.g. sweeping or vacuuming) to prevent the discharge of pollutants into the storm water conveyance system.
 - When cleaning heavy oily deposits:
 - Use absorbent materials on oily spots prior to sweeping or washing.
 - Dispose of used absorbents appropriately.
 - Cleaning with water:
 - Block the storm drain or contain the runoff.
 - Wash water should be collected and pumped to the sanitary sewer or discharged to a pervious surface, do not allow wash water to directly enter storm drains.
- Allow sheet runoff to flow into vegetated strips or swales.
- Utilize sand filters or oleophilic collectors for oily waste in low concentrations.
- Arrange rooftop drains to prevent drainage directly onto paved surfaces.
- Use only as much water as necessary for dust control, to avoid runoff.

- Catch drips from paving equipment that is not in use with pans or absorbent material placed under the machines. Dispose of collected material and absorbents properly.
- Surface Repair
 - Pre-heat, transfer or load hot bituminous material away from storm drain inlets.
 - Apply concrete, asphalt, and seal coat during dry weather to prevent contamination from contacting storm water runoff.
 - Cover and seal nearby storm drain inlets (with waterproof material or mesh) and manholes before applying seal coat, slurry seal, etc., where applicable.
 - Leave covers in place until job is complete and until all water from emulsified oil sealants has drained or evaporated.
 - Clean any debris from these covered manholes and drains for proper disposal.

(2) Inspection

Have designated personnel conduct inspections of the parking and roadway areas;



Best Management Practice - 02

PARKING & ROADWAY AREA MAINTENANCE

CERTIFICATION

The Best Management Practice, BMP-02 Parking and Roadway Area Maintenance is the official policy of Veolia Water North America, West-LLC. Inc. for the Elwha Water Treatment Plant.

Certified this Date: _____

Certified by: _____ Title: _____

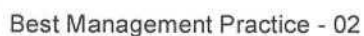
Approved by BMP Committee:

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BMP Revised by: John P. O'Hare, Veolia Water North America, Environmental & Compliance Date: 07/15/14

BM Reviewed BMP Committee:

Reviewer	Date:



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Elwha Water Treatment Plant

Best Management Practice - 03

BUILDING MAINTENANCE

Description:

Storm water runoff from building and grounds maintenance activities can be contaminated with toxic hydrocarbons in solvents, fertilizers and pesticides, suspended solids, heavy metals, and abnormal pH. Utilizing the following protocols will prevent or reduce the discharge of pollutants to storm water from building and grounds maintenance activities by washing and cleaning up with as little water as possible, following good landscape management practices, preventing and cleaning up spills immediately, keeping debris from entering the storm drains, and maintaining the storm water collection system.

Objective/Goals:

This BMP is intended to prevent or reduce the discharge of pollutants generated while performing building maintenance. It should be noted that many of the activities associated with the maintenance of buildings are also activities associated with parking areas and landscape maintenance. The BMPs for these activities also apply and are intentionally included and in some cases, expanded from BMP01 and BMP-02.

Approach:

(1) Pollution Prevention

- Switch to non-toxic chemicals for maintenance when possible.
- Choose cleaning agents that can be recycled.
- Encourage proper lawn management and landscaping, including use of native vegetation.
- Encourage use of Integrated Pest Management techniques for pest control.
- Encourage proper onsite recycling of yard trimmings.
- Recycle residual paints, solvents, lumber, and other material as much as possible.

- Sweep paved areas regularly to collect loose particles, and wipe up spills with rags and other absorbent material immediately; do not hose down the area to a storm drain.

(2) Pressure Washing of Buildings, Rooftops, and Other Large Objects

- In situations where soaps or detergents are used and the surrounding area is paved, pressure washers must use a waste water collection device that enables collection of wash water and associated solids. A sump pump, wet vacuum or similarly effective device must be used to collect the runoff and loose materials. The collected runoff and solids must be disposed of properly.
- If soaps or detergents are not used, and the surrounding area is paved, wash water runoff does not have to be collected but must be screened. Pressure washers must use filter fabric or some other type of screen on the ground and/or in the catch basin to trap the particles in wash water runoff.
- If you are pressure washing on a grassed area (with or without soap), runoff must be dispersed as sheet flow as much as possible, rather than as a concentrated stream. The wash runoff must remain on the grass and not drain to pavement. Ensure that this practice does not kill grass.

(3) Landscaping Activities

- Do not apply any chemicals (insecticide, herbicide, or fertilizer) directly to surface waters, unless the application is approved and permitted by the state.
- Dispose of grass clippings, leaves, sticks, or other collected vegetation as garbage, or by composting. Do not dispose of collected vegetation into waterways or storm drainage systems.
- Use mulch or other erosion control measures on exposed soils.
- Check irrigation schedules so pesticides will not be washed away and to minimize non-storm water discharge.

(4) Building Repair, Remodeling, and Construction

- Do not dump any toxic substance or liquid waste on the pavement, the ground, or toward a storm drain.
- Use ground or drop cloths underneath outdoor painting, scraping, and sandblasting work, and properly dispose of collected material daily.

- Use a ground cloth or oversized tub for activities such as paint mixing and tool cleaning.
- Clean paint brushes and tools covered with water-based paints in sinks connected to sanitary sewers or in portable containers that can be dumped into a sanitary sewer drain.
- Brushes and tools covered with non-water-based paints, finishes, or other materials must be cleaned in a manner that enables collection of used solvents (e.g., paint thinner, turpentine, etc.) for recycling or proper disposal.
- Use a storm drain cover, filter fabric, or similarly effective runoff control mechanism if dust, grit, wash water, or other pollutants may escape the work area and enter a catch basin. The containment device(s) must be in place at the beginning of the work day, and accumulated dirty runoff and solids must be collected and disposed of before removing the containment device(s) at the end of the work day.
- If you need to de-water an excavation site, you may need to filter the water before discharging to a catch basin or off-site. In which case you should direct the water through hay bales and filter fabric or use other sediment filters or traps.
- Store toxic material under cover with secondary containment during precipitation events and when not in use. A cover would include tarps or other temporary cover material.

(5) Mowing, Trimming, and Planting

- Dispose of leaves, sticks, or other collected vegetation as garbage, by composting or at a permitted landfill. Do not dispose of collected vegetation into waterways or storm drainage systems.
- Use mulch or other erosion control measures when soils are exposed.
- Place temporarily stockpiled material away from watercourses and drain inlets, and berm or cover stockpiles to prevent material releases to the storm drain system.
- Consider an alternative approach when bailing out muddy water; do not put it in the storm drain, pour over landscaped areas.
- Use hand or mechanical weeding where practical.

(6) Fertilizer and Pesticide Management

- Follow all federal, state, and local laws and regulations governing the use, storage, and disposal of fertilizers and pesticides and training of applicators and pest control advisors.
- Follow manufacturers' recommendations and label directions
- Do not apply insecticides within 100 feet of surface waters such as lakes, ponds, wetlands, and streams.
- Use less toxic pesticides that will do the job, whenever possible. Avoid use of copper-based pesticides if possible.
- Do not use pesticides if rain is expected.
- Do not mix or prepare pesticides for application near storm drains.
- Use the minimum amount needed for the job.
- Calibrate fertilizer distributors to avoid excessive application.
- Employ techniques to minimize off-target application (e.g. spray drift) of pesticides, including consideration of alternative application techniques.
- Apply pesticides only when wind speeds are low.
- Work fertilizers into the soil rather than dumping or broadcasting them onto the surface.
- Irrigate slowly to prevent runoff and then only as much as is needed.
- Clean pavement and sidewalk if fertilizer is spilled on these surfaces before applying irrigation water.
- Dispose of empty pesticide containers according to the instructions on the container label.
- Use up the pesticides. Rinse containers, and use rinse water as product. Dispose of unused pesticide as hazardous waste.
- Implement storage requirements for pesticide products with guidance from the local fire department and County Agricultural Commissioner. Provide secondary containment for pesticides.

(7) Inspection

- Inspect irrigation system periodically to ensure that the right amount of water is being applied and that excessive runoff is not occurring. Minimize excess watering, and repair leaks in the irrigation system as soon as they are observed.

(8) Spill Response and Prevention

- Have spill cleanup materials readily available and in a known location.
- Cleanup spills immediately and use dry methods if possible.
- Properly dispose of spill cleanup material.

(9) Fire Sprinkler Line Flushing

Building fire sprinkler line flushing may be a source of non-storm water runoff pollution. The water entering the system is usually potable water though in some areas it may be non-potable reclaimed wastewater. There are subsequent factors that may drastically reduce the quality of the water in such systems. Black iron pipe is usually used since it is cheaper than potable piping but it is subject to rusting and results in lower quality water. Initially the black iron pipe has an oil coating to protect it from rusting between manufacture and installation; this will contaminate the water from the first flush but not from subsequent flushes. Nitrates, polyphosphates and other corrosion inhibitors, as well as fire suppressants and antifreeze may be added to the sprinkler water system. Water generally remains in the sprinkler system a long time, typically a year, between flushes and may accumulate iron, manganese, lead, copper, nickel and zinc. The water generally becomes anoxic and contains living and dead bacteria and breakdown products from chlorination. This may result in a significant BOD problem and the water often smells. Consequently dispose fire sprinkler line flush water into the sanitary sewer. Do not allow discharge to storm drain or infiltration due to potential high levels of pollutants in fire sprinkler line water.



Best Management Practice - 03
BUILDING MAINTENANCE

CERTIFICATION

The Best Management Practice, BMP-03 Building Maintenance is the official policy of Veolia Water North America, West-LLC. Inc. for the Elwha Water Treatment Plant.

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Certified by: _____ Title: _____

Approved by BMP Committee:

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BMP Revised by: John P. O'Hare, Veolia Water North America, Environmental & Compliance Date: 07/15/14

BM Reviewed BMP Committee:

Reviewer	Date:



Best Management Practice - 03

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Elwha Water Treatment Plant

Best Management Practice - 04

OUTDOOR MATERIAL STORAGE

Description:

Materials of concern subject to outdoor storage on the facility grounds include: gravel, sand, lumber, topsoil, compost, concrete, metal products, lubricants, machinery, and others. Where stored materials cannot be covered, storm water runoffs from the stored materials have the potential to release suspended solids and oils to the storm drains.

Objective/Goals:

This BMP is intended to prevent or reduce the release of suspended solids and oils to the storm drains.

Approach:

- Where stored materials cannot be covered, storm water runoff from the stored materials will be detained or filtered to prevent the release of suspended solids to the storm drains.
- Material is stored in one of three ways:
 - On a paved surface with a roof or covering so that no direct rainfall contacts the stored material and with appropriate berm or runoff controls to prevent run-on of storm water.
 - On a specially constructed paved area with a drainage system with a slope to minimize water pooling. Prevent runoff and run-on with berm or curbing along the perimeter. Drainage is directed to treatment facilities or water quality catch basins along the lower edge of the pad.
 - Covered with plastic sheeting, secured with weights such as tires or sand bags. If possible, a mounded or bermed area that will prevent run-on of storm water through the material will be used.
- Parking areas or other surfaces near bulk materials storage areas will be swept periodically to remove fines that may wash out of the materials and carried off with storm water runoff.
- Liquid tanks or drums will be kept in a designated area on a paved impermeable surface and within a berm or other secondary containment.

- Hazardous materials will be stored as described in the Hazardous Materials Management Plan and in a manner that ensures storm water protection.
- Outdoor storage containers will be kept in good condition. Containers will be inspected regularly for damage or leaks.
- Liquids collected in temporary or outdoor storage secondary containment areas can be removed by use of a portable pumping system that can be moved to accommodate separate containment structures on the facility. Water can then be pumped into a truck or portable temporary holding tank. The water then can be tested and disposed of according to whether any pollutants are present.
- Outdoor storage areas will be kept clean and free of clutter and debris.
- Storage area stormwater run-off filters shall be inspected and cleaned routinely to assure the filtering and run off system is prepared for storms.
- Material covers will be inspected for integrity and placement to afford maximum coverage.
- Spill Response and Prevention - Have spill cleanup materials readily available and in a known location. Cleanup spills immediately and use dry methods if possible. Properly dispose of spill cleanup material.



Elwha Water Treatment Plant

Best Management Practice - 04
**OUTDOOR MATERIAL
STORAGE**

CERTIFICATION

The Best Management Practice, BMP-04 Outdoor Material Storage is the official policy of Veolia Water North America, West-LLC. Inc. for the Elwha Water Treatment Plant.

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Certified by: _____ Title: _____

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BM Reviewed BMP Committee:

Reviewer	Date:

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Elwha Water Treatment Plant

Best Management Practice - 05

EMERGENCY ELECTRICAL POWER DIESEL GENERATOR

Description:

The EWTP receives emergency electrical power from a diesel engine driven electrical generator. The diesel engine, generator and day tank are mounted on a skid inside a secondary containment area. Additional diesel fuel storage is provided on-site or supplied by a commercial fuel supply via truck delivery. The day tank is a double walled tank with primary leak detection. The secondary containment is concrete. Leaks and spills of oil or fuel are captured in the containment. A determination for disposal or recycle options and the captured material is transferred off-site by commercial service providers. General stormwater is captured in the secondary containment. A determination is made by the plant manager whether the stormwater is contaminated or of sufficient quality that it may be released to the storm drains.

Objective/Goals:

It is the objective of this BMP to maintain the secondary containment in a clean condition to facilitate preservation of the captured stormwater quality to allow the release of the captured stormwater to the plant storm drains without adversely impacting the quality of the storm water. In addition, this BMP is intended to assure the integrity of the containment is not compromised due to deterioration of the containment walls or the liquid removal system (drain valve, sump pump or other devices that would be used for the dewatering of the containment area).

Approach:

(1) Pollution Prevention

- Switch to non-toxic chemicals for maintenance when possible.
- Choose cleaning agents that can be recycled.
- Do not store materials (dry or wet) in the containment area.
- Do not allow trash and debris to collect in the containment area.
- Follow the appropriate SOPs for the proper maintenance practices and operations of the diesel engine to prevent leaks and spills while operating or performing maintenance.

(2) General Housekeeping

- Sweep containment area regularly to collect loose particles, and wipe up spills with rags and other absorbent material immediately, do not hose down the area to a storm drain.
- In situations where soaps, detergents, and/or pressure washers must be used, the waste water must be collected and the wastewater must be disposed of properly.
- Do not allow grease to buildup on engine, generator, or other equipment located in the containment area. Use appropriate cleaning methods for equipment cleaning.

(3) Materials Handling

Diesel Fuel must be stored on-site in containment or delivered as the generator engine requires re-fueling during operation. Therefore diesel fuel must be delivered on a regular basis.

- All areas where fuel will be transferred from a delivery vehicle to the fuel storage tank and/or transferred from the fuel storage to the day tank, should be inspected and kept free of debris and clutter that would prevent the recovery of spilled fuel.
- Fuel capture materials conveniently stored (located) near the fuel handling location.
- Fuel off-loading/transfer sites should be setup to capture spilled fuel.
- All temporary hoses, valves, measurement devices, and connectors should be carefully checked and attended prior to and during the transfer of fuel.
- Fuel transfer SOPs should be followed at all times.
- Operators (both vendor and plant operators) should be thoroughly trained in spill response and the actions necessary to activate an emergency shutdown of the fuel transfer operation.

(4) Spill Response and Prevention

- Have spill cleanup materials readily available and in a known location.
- Cleanup spills immediately and use dry methods if possible.

- Properly dispose of spill cleanup material.

(5) Inspection

- Routinely inspect day tank for leakage (tank integrity)
- Inspect all equipment within the containment areas for leaks, spills, buildup of grease and oils, or broken or damaged parts.
- Inspect secondary containment walls for cracks and chips and other damage.
- Check that secondary containment has not been compromised by open valves, open pipes; breached walls; etc. Containment does not exist if an automated valve or pump is setup to open or start when a liquid level is measured in the containment sump drain. Likewise, containment may be compromised if stormwater from adjacent areas is allowed to enter the containment area. Removal of any liquid, whether contaminated or not, should not be allowed until a decision has been made by the operator-in-charge regarding whether the captured liquid is compliant with the storm water quality or if an alternate disposal is necessary, and what alternative disposal option is appropriate for the liquid captured.



Elwha Water Treatment Plant

Best Management Practice - 05

EMERGENCY ELECTRICAL POWER DIESEL GENERATOR

CERTIFICATION

The Best Management Practice, BMP-05 Emergency Electrical Power Diesel Generator is the official policy of Veolia Water North America, West-LLC. Inc. for the Elwha Water Treatment Plant.

Certified this Date: _____

Certified by: _____ Title: _____

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BMP Revised by: John P. O'Hare, Veolia Water North America, Environmental & Compliance Date: 07/15/14

BM Reviewed BMP Committee:

Reviewer	Date:



Elwha Water Treatment Plant

Best Management Practice - 05

EMERGENCY ELECTRICAL POWER DIESEL GENERATOR

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Elwha Water Treatment Plant

Best Management Practice - 06

PUMP STATIONS

Description:

The EWTP has several pump stations. This BMP applies in general to all pump stations. SOPs for the specific pump station may have some additional BMPs that apply. The primary risks associated with pump stations is the inadvertent release of the pumped liquid. This may be a direct problem due to the liquid being pumped or there may be an indirect problem due not to the liquid that is being pumped, but the result of contact with a stored material and the liquid.

Objective/Goals:

It is the objective of this BMP to reduce the impact of a spill or a leak from a pump, valve, or piping.

Approach:

(1) Pollution Prevention

- Switch to non-toxic chemicals for maintenance when possible.
- Choose cleaning agents that can be recycled.
- Do not store materials (dry or wet) in the pump station except for small quantities of materials used on a regular basis.
- Do not allow trash and debris to collect in the pump station.
- Follow the appropriate SOPs for the proper maintenance practices and operations of the pumps, motors, valves, piping and associated equipment located in the pump station.

(2) General Housekeeping

- Sweep pump station regularly to collect loose particles, and wipe up spills with rags and other absorbent material immediately.

- In situations where soaps, detergents, and/or pressure washers must be used, the waste water must be collected and the wastewater must be disposed of properly.
- Do not allow grease to buildup on pumps, motors, valves, or other equipment located in the pump station. Use appropriate cleaning methods for equipment cleaning.

(3) Materials Handling

- Pump stations are not intended for the storage of large volumes of liquid or dry materials.
- Liquids in drums of more than 5 gallons capacity should not be regularly stored at the pump station. If it is necessary to store this volume of chemicals at the pump station, then secondary containment must be provided. The secondary containment must be capable of holding the entire volume of stored chemicals.
- If secondary containment is required, secondary containment must be kept free and clear of debris and clutter. Liquids shall not be allowed to accumulate in containment areas.
- Parts and equipment replacements may be temporarily stored at the pump station. These materials should be placed in areas that are less likely to receive spills or leaks, and debris must not be allowed to collect on, or around the stored equipment. Temporary storage is considered a few weeks at most. If longer termed storage is needed the equipment should be moved to an appropriate storage area at the facility.

(4) Spill Response and Prevention

- Have spill cleanup materials readily available and in a known location.
- Cleanup spills immediately and use dry methods if possible.
- Properly dispose of spill cleanup material.

(5) Inspection

- Routinely inspect pumps, valves, and piping for leakage, floor stains from oils, and the buildup of corrosion or debris.
- Inspect secondary containment for integrity and cleanliness.

- Check that secondary containment has not been compromised by open valves, open pipes; breached walls; etc. Containment does not exist if an automated valve or pump is setup to open or start when a liquid level is measured in the containment sump drain. Likewise, containment may be compromised if stormwater from adjacent areas is allowed to enter the containment area. Removal of any liquid, whether contaminated or not, should not be allowed until a decision has been made and the operator-in-charge has determined whether the capture liquid is compliant with the storm water quality or if an alternate disposal is necessary, and what alternative disposal option is appropriate for the liquid captured.



Elwha Water Treatment Plant

Best Management Practice - 06

PUMP STATIONS

CERTIFICATION

The Best Management Practice, BMP-06 Pump Stations is the official policy of Veolia Water North America, West-LLC. Inc. for the Elwha Water Treatment Plant.

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BMP Reviewed:

Reviewer	Date:



PUMP STATIONS

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Elwha Water Treatment Plant

Best Management Practice - 07
MATERIAL RECEIVING

Description:

Truck loading and unloading areas are potential sources of pollutants when rainfall and run-on contact spilled raw materials, dust, and motor fluids that accumulate in these areas.

Objective/Goals:

This BMP is intended to prevent or reduce the release of suspended solids and oils to the storm drains.

Approach:

- When frequent truck off-loading takes place at a specific site curbs or berms will be installed around the loading area to prevent storm water from running on and any spilled material from running off.
- Shipments are inspected for leaked motor fluids, spilled materials, debris, and other foreign materials.
- Loading and offloading areas are to be kept clean and free of litter and debris.
- Materials received shall be moved to the appropriate storage location at the facility promptly and not stored in the receiving area.
- Materials received directly to a storage area where a berm or flow control device is located, the berm and flow control device will be returned to its appropriate position immediately upon completion of the off-loading operation.



Elwha Water Treatment Plant

Best Management Practice - 07
MATERIAL RECEIVING

CERTIFICATION

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BM Reviewed BMP Committee:

Reviewer	Date:

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Elwha Water Treatment Plant

Best Management Practice - 08
VEHICLE OPERATIONS

Description:

The use of vehicles on the facility presents the potential for the release of fuels and oils. Vehicles include cars, pickups, trucks, tractors, forklifts, cranes, and any other type of vehicle used on the facility grounds.

Objective/Goals:

This BMP is intended to prevent or reduce the release of suspended solids, fuel, and oils to the storm drains.

Approach:

(1) Vehicle and Equipment Maintenance and Storage Areas

- Whenever possible, vehicle and equipment maintenance is performed in an indoor garage. Outdoor vehicle maintenance takes place in an area designated for vehicle maintenance. When equipment maintenance is required to be performed in a storage or outdoor work area, maintenance personnel shall observe all BMPs to minimize and/or eliminate storm water pollution.
- Equipment will be kept clean so that a buildup of grease and oil will not wash away when the equipment is exposed to rain.
- Vehicle and equipment maintenance areas are paved with concrete whenever possible.
- Drip pans or containers are kept under the vehicles at all times during maintenance.
- Fluids are drained from any retired vehicles kept on-site for scrap or parts. Stored or out-of-service vehicles awaiting restoration or service, and vehicles being held for resale are checked periodically for leakage. Drip pans or containers are to be kept under the vehicles.
- A berm or other runoff controls will be installed to prevent run-on and run-off.

(2) Vehicle and Equipment Storage

- Vehicles that require temporary or long-term storage shall be kept to a minimum.
- Vehicles shall be stored (parked) in a designated long-term vehicle storage area (equipment yard)
- Stored Vehicles and equipment will be inspected to identify sources of spills or leaks.
- The equipment yard will be kept clean and clear of debris and litter.
- Storm drain inlets will be cleaned on a regular schedule and also after large storms. Special attention will be paid to the kinds of potential pollutants that accumulate there as a result of facility activities so that appropriate measures can be taken to control any pollutant sources.
- Improvements to a vehicle or equipment storage area should grade the area to slope to a longitudinal drain, or install curbs to direct all direct storm water to a single point of discharge to easily visually monitor the storm water discharge. If the vehicle or equipment yard is a large source of oily materials, then the inlet will be fitted with an oil/water separator or interceptor.
- Consistent parking spots will be designated for each vehicle to identify if a leak is occurring. This will facilitate identification of the equipment requiring repair.
- A special area will be constructed for the facilities 'dirtiest' equipment in order to handle the discharges, leaks, and runoff separately with more intensive BMP's if needed.
- Spills will be cleaned up promptly, using dry cleanup procedures.

(3) Vehicle and Equipment Fueling Area

- When frequent vehicle and equipment fueling must be performed a designed area should be established to allow for convenient access to spill kits and materials. Even very small spills, when they happen every day, add up to a lot of fuel in the drainage system.
- Fueling areas ideally should be on a non-permeable or semi-permeable surface (concrete is preferred because fuel and oils cause asphalt to deteriorate) and the area should drain to a sump or collection pit.
- Gasoline overflows and spills will be cleaned using dry methods. Spills will not be allowed to run off or evaporate, and will not be flushed with a hose. Absorbent

material will be used to absorb the liquid and disposed of.

- Dry cleanup materials will be kept in the fueling area, and employees will be instructed in the proper dry clean-up methods.
- Keep temporary fuel tanks in a bermed area that has an impervious lining, such as concrete or a heavy-mil plastic liner.

(4) Vehicle Cleaning

- It is preferred that routine vehicle cleaning is performed off-site at a commercial facility. If vehicle cleaning is performed on-site then the following BMP shall be followed.
- Vehicles and equipment are washed only in designated areas;
- Wash areas are paved and clearly marked;
- Sumps or drain lines are installed to collect wash water for treatment, reuse (for repeated washings); or recycle (used elsewhere onsite).
- The wash area is graded or bermed to prevent storm water run on.
- Washing does not take place on gravel, grass, or other permeable surfaces.
- Use only biodegradable soaps.
- Equipment and vehicle washing that takes place inside a building designed for maintenance or equipment storage: all drains from the wash area are connected to the sanitary sewer; and storm water is prevented from entering the wash area.



Elwha Water Treatment Plant

Best Management Practice - 08
VEHICLE OPERATIONS

CERTIFICATION

The Best Management Practice, BMP-08 Vehicle Operations is the official policy of Veolia Water North America, West-LLC. Inc. for the Elwha Water Treatment Plant.

Certified this Date: _____

Certified by: _____ Title: _____

Approved by BMP Committee:

Approved by: _____ Title: _____

BMP Created by: Ron Cornmesser, Veolia Water Technical Services Date: 10/19/09

BMP Revised by: John P. O'Hare, Veolia Water North America, Environmental & Compliance Date: 07/15/14

BM Reviewed BMP Committee:

Reviewer	Date:



VEHICLE OPERATIONS

All operators are required to read and understand the Best Management Practice. The operator's name, signature and date attest to the review and understanding of the Best Management Practice identified at the top of this page.

[illegible]



Elwha Water Treatment Plant

Best Management Practice - 09

WASTE HANDLING AND DISPOSAL

Description:

Wastes generated on-site when improperly stored prior to disposal can create a high potential for the release of solids, oils, and other organic wastes to the storm drains.

Objective/Goals:

This BMP is intended to prevent or reduce the release of suspended solids, oils and other waste products to the storm drains.

Approach:

- The facility shall implement pollution prevention practices to collect and recycle paper, glass, plastic and aluminum (which will be separated at the Port Angeles Refuse Transfer Station).
- General shop and office trash will be kept in a dumpster with the lid closed. The dumpster is kept in a paved area and kept clean by picking up dropped trash and sweeping the area regularly.
- Liquid wastes are kept out of the dumpster and the lid is kept closed to keep storm water out.
- Scrap metal or other materials kept outdoors are covered by a roof or tarpaulin. Scrap parts or other metals are kept in a shed or under a roof out of the rain. Waste metal is collected for delivery to a scrap metal dealer.
- Empty drums stored outdoors are sealed to be watertight.
- Hazardous materials or wastes are stored in a locked blue container by the office door and are disposed of by a licensed company.
- Waste oil, antifreeze (engine coolant), spent solvents, and other liquids from vehicle maintenance activities are recycled.
- Spent batteries are disposed of as hazardous waste or returned for reclamation and reuse.



Elwha Water Treatment Plant

Best Management Practice - 09

WASTE HANDLING AND DISPOSAL

CERTIFICATION

The Best Management Practice, BMP-09 Waste Handling and Disposal is the official policy of Veolia Water North America, West-LLC. Inc. for the Elwha Water Treatment Plant.

Certified this Date: _____

Certified by: _____ Title: _____

Approved by BMP Committee:

Approved by: _____ Title: _____

BMP Created by: Ron Cornmesser, Veolia Water Technical Services Date: 10/19/09

BMP Revised by: John P. O'Hare, Veolia Water North America, Environmental & Compliance Date: 07/15/14

BM Reviewed BMP Committee:

Reviewer	Date:



Best Management Practice - 09

WASTE HANDLING AND DISPOSAL

SIGN OFF SHEET

All operators are required to read and understand the Best Management Practice. The operator's name, signature and date attest to the review and understanding of the Best Management Practice identified at the top of this page.

[illegible]



Elwha Water Treatment Plant

Best Management Practice - 10

SPILL RESPONSE AND CLEANUP

Description:

Even small spills can have cumulative effects that add up to a significant source of potential pollutants as storm water discharges from the site. Facility personnel will contain and collect the spilled substance, then dispose of the substance and any contaminated soil in compliance with local hazardous materials regulations.

Objective/Goals:

This BMP is intended to prevent or reduce the release of spilled materials to the storm drains.

Actions described in this BMP are not intended to replace or supersede Spill Prevention and Response Procedures for hazardous materials stored or handled onsite. Spills of hazardous materials will follow the procedures described in the facility Spill Response Plan, and/or Emergency Response Plan.

Approach:

- Small spills: These are spills that can be wiped up with a shop rag. Wet rags will not be put in the dumpster with the shop trash – they will be stored in a covered bin like the kind used at auto service stations. Used rags will be sent to a professional cleaning service or disposed of with the hazardous wastes if necessary.
- Medium sized spills: these are spills too large to wipe up with a rag. Medium-sized spills will be contained and soaked up using dry absorbent material such as: vermiculite, specially-prepared sawdust, or kitty litter. Absorbent snakes may be used as temporary booms to contain and soak up the liquid. Used absorbent material will be swept up or collected and will be disposed of with the shop trash if non-hazardous or with the hazardous wastes if necessary. A wet/dry shop vacuum cleaner may also be used to collect spills and dispose of the liquid with hazardous wastes. Vacuums will not be used for gasoline, solvents, or other volatile fluids, because the enclosed vacuum may become an explosive hazard.
- Large spills: Spills of non-hazardous liquids will be contained and cleaned using a minimum amount of wash water. Storm drain inlets or sewer inlets will be plugged to prevent the spill from entering the sanitary sewer or storm drain. Temporary plugs will be kept onsite for the facility inlets and employees will be

trained in when and how to use them. For hazardous materials spills, the procedures described in the Spill Response Plan and/or Emergency Response Plan will be implemented.

- When a spill occurs, quick and effective response will prevent pollutants from reaching storm water. Spills will be cleaned up promptly and not allowed to evaporate so that pollutants do not remain on the pavement to be washed to the storm drains with the next rain or remain in the soil to become a possible groundwater pollutant. If the spill is on an unpaved surface, the facility manager will determine whether the contaminated soil should be removed to prevent it from being a source of future storm water pollutants. Spill procedures will also include cleaning up leaks, drips, and other spills without water whenever possible.



Elwha Water Treatment Plant

Best Management Practice - 10

SPILL RESPONSE AND CLEANUP

CERTIFICATION

The Best Management Practice, BMP-10 Spill Response and Cleanup is the official policy of Veolia Water North America, West-LLC. Inc. for the Elwha Water Treatment Plant.

Certified this Date: _____

Certified by: _____ Title: _____

Approved by BMP Committee:

Approved by: _____ Title: _____

BMP Created by: Ron Cornmesser, Veolia Water Technical Services Date: 10/19/09

BMP Revised by: John P. O'Hare, Veolia Water North America, Environmental & Compliance Date: 07/15/14

BM Reviewed BMP Committee:

Reviewer	Date:



SPILL RESPONSE AND CLEANUP

All operators are required to read and understand the Best Management Practice. The operator's name, signature and date attest to the review and understanding of the Best Management Practice identified at the top of this page.

[illegible]



Elwha Water Treatment Plant

Best Management Practice - 11

USE OF COAGULANTS AND POLYMERS

Description:

The sedimentation processes utilized at the EWTP are enhanced by the use of an Aluminum Chloride Coagulant and Polymers. To reduce the coagulant/polymer concentration in the treated water sent to the distribution system, and to reduce the coagulant/polymer concentrations in the effluent slurry released to the receiving stream, the operator must prevent over-dosing (adding too much coagulant/polymer) and/or under-dosing (not adding enough coagulant/polymer). This BMP focuses on process control to provide coagulant and polymer additions to facilitate optimal settling of solids from the treated water.

Objective/Goals:

This BMP is intended to reduce the release of coagulants and polymers to the receiving stream and to the treated water distribution system.

Approach:

- Jar Testing shall be used to establish dosing rates for coagulants and polymers. Jar Testing provides an objective means of determining the best dosing rate through a series of bench scale coagulant/polymer additions. Then the best performing dose rate is used to inject and mix with the influent water to enhance the settling of solids in the sedimentation tanks. Observation and testing for settleability provide objective measures to determine the optimal coagulate/polymer addition rates. Jar Testing will be performed when a new coagulate/polymer is used, a persistent change in the process water pH occurs, or other changes occur that reduce the effective settling characteristics of the treatment process.
- Ionic Balance Monitoring: a permanently installed Ionic Balance Instrument is installed to continuously monitor several points in the treatment process to determine the ion balance. The ionic balance of the solution is a measure of the electrical charge of the solution. The coagulants and polymers used in the treatment process change the ionic balance of the solution to allow the coagulation of the solids in the solution which increases the particle mass resulting in the settling of the coagulated mass to the bottom of the sedimentation tank. By continuous monitoring of the ionic balance, the operator will be able to determine when the characteristics of the water have changed and thereby require a change in the coagulate/polymer addition rates.

- Due to the installation of the Ionic Balance Monitoring equipment, the material plugs the feed to the instrument and a reading is impossible.
- Process control sampling and analysis: the use of settleability analysis and 30 minute settleability checks will provide operators a quick analysis to determine the process performance and to judge if process adjustments are needed.
- Coagulant and Polymer handling: Operators must use care when handling coagulants and polymers to prevent inadvertent additions or to reductions when adjusting feed rates, changing system lineups, or filling storage and day tanks.



Elwha Water Treatment Plant

Best Management Practice - 11

USE OF COAGULANTS AND POLYMERS

CERTIFICATION

The Best Management Practice, BMP-11 Use of Coagulants and Polymers is the official policy of Veolia Water North America, West-LLC. Inc. for the Elwha Water Treatment Plant.

Certified this Date: _____

Certified by: _____ Title: _____

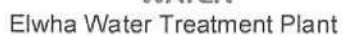
Approved by BMP Committee:

Approved by: _____ Title: _____

BMP Created by: Ron Cornmesser, Veolia Water Technical Services Date: 11/19/09
BMP Revised by: John P. O'Hare, Veolia Water North America, Environmental & Compliance Date: 07/15/14

BM Reviewed BMP Committee:

Reviewer	Date:



Best Management Practice - 11

SIGN OFF SHEET

[illegible]



Elwha Water Treatment Plant

Best Management Practice - 12

Temporary Diversion Pump Facility

Description:

The Temporary Diversion Pump Facility (TDPF) is a pumping facility with the function of diverting raw water from the Elwha River into the Elwha Water Treatment Plant for treatment and/or delivery to the treatment plant's end water users. It is comprised of six electrically powered pumps, an air burst system, a rotating intake screen system and two diesel generators. The primary risks associated with this pump station are the storage of diesel fuel at the site and the potential release of untreated water which could wash other materials into the storm water system.

Objective/Goals:

It is the objective of this BMP to prevent or reduce the discharge of pollutants from the TDPF

Approach

(1) Pollution Prevention

- Switch to non-toxic chemicals for maintenance when possible.
- Choose cleaning agents that can be recycled.
- Do not store materials (dry or wet) in the containment area.
- Do not allow trash and debris to collect in the containment area.
- Follow the appropriate SOPs for the proper maintenance practices and operations of the diesel engine to prevent leaks and spills while operating or performing maintenance.

(2) General Housekeeping

- Sweep containment area and building floor regularly to collect loose particles, and wipe up spills with rags and other absorbent material immediately, do not hose down the area to a storm drain.

- In situations where soaps, detergents, and/or pressure washers must be used, the waste water must be collected and the wastewater must be disposed of properly.
- Do not allow grease to buildup on engine, generator, or other equipment located in the containment area. Use appropriate cleaning methods for equipment cleaning.

(3a) Materials Handling - Diesel

Diesel Fuel must be stored on-site in containment or delivered as the generator engine requires re-fueling during operation. Therefore diesel fuel must be delivered on a regular basis.

- All areas where fuel will be transferred from a delivery vehicle to the fuel storage tank and/or transferred from the fuel storage to the day tank, should be inspected and kept free of debris and clutter that would prevent the recovery of spilled fuel.
- Fuel capture materials conveniently stored (located) near the fuel handling location.
- Fuel off-loading/transfer sites should be setup to capture spilled fuel.
- All temporary hoses, valves, measurement devices, and connectors should be carefully checked and attended prior to and during the transfer of fuel.
- Fuel transfer SOPs should be followed at all times.
- Operators (both vendor and plant operators) should be thoroughly trained in spill response and the actions necessary to activate an emergency shutdown of the fuel transfer operation.

(3b) Materials Handling – Pump Facility

- The pump facility is not intended for the storage of large volumes of liquid or dry materials.
- Liquids in drums of more than 5 gallons capacity should not be regularly stored at the pump station. If it is necessary to store this volume of chemicals at the pump station, then secondary containment must be provided. The secondary containment must be capable of holding the entire volume of stored chemicals.
- If secondary containment is required, secondary containment must be kept free and clear of debris and clutter. Liquids shall not be allowed to accumulate in containment areas.

- Parts and equipment replacements may be temporarily stored at the pump station. These materials should be placed in areas that are less likely to receive spills or leaks, and debris must not be allowed to collect on, or around the stored equipment. Temporary storage is considered a few weeks at most. If longer termed storage is needed the equipment should be moved to an appropriate storage area at the facility.

(4) Spill Response and Prevention

- Have spill cleanup materials readily available and in a known location.
- Cleanup spills immediately and use dry methods if possible.
- Properly dispose of spill cleanup material.

(5a) Inspection – Diesel Tank

- Routinely inspect day tank for leakage (tank integrity)
- Inspect all equipment within the containment areas for leaks, spills, buildup of grease and oils, or broken or damaged parts.
- Inspect secondary containment walls for cracks and chips and other damage.
- Check that secondary containment has not been compromised by open valves, open pipes; breached walls; etc. Containment does not exist if an automated valve or pump is setup to open or start when a liquid level is measured in the containment sump drain. Likewise, containment may be compromised if storm water from adjacent areas is allowed to enter the containment area. Removal of any liquid, whether contaminated or not, should not be allowed until a decision has been made by the operator-in-charge regarding whether the captured liquid is compliant with the storm water quality or if an alternate disposal is necessary, and what alternative disposal option is appropriate for the liquid captured.

(5b) Inspection – Pump Facility

- Routinely inspect pumps, valves, and piping for leakage, floor stains from oils, and the buildup of corrosion or debris.
- Inspect secondary containment for integrity and cleanliness.
- Check that secondary containment has not been compromised by open valves, open pipes; breached walls; etc. Containment does not exist if an automated valve or pump is setup to open or start when a liquid level is measured in the

containment sump drain. Likewise, containment may be compromised if storm water from adjacent areas is allowed to enter the containment area. Removal of any liquid, whether contaminated or not, should not be allowed until a decision has been made and the operator-in-charge has determined whether the captured liquid is compliant with the storm water quality or if an alternate disposal is necessary, and what alternative disposal option is appropriate for the liquid captured.

(6) Landscape Maintenance

- Encourage proper lawn management and landscaping, including use of native vegetation.
- Encourage use of Integrated Pest Management techniques for pest control.
- Encourage proper onsite recycling of yard trimmings.
- Choose low water using flowers, trees, shrubs, and groundcover.
- Consider alternative landscaping techniques such as naturescaping and xeriscaping.
- Conduct appropriate maintenance (i.e. properly timed fertilizing, weeding, pest control, and pruning) to help preserve the landscape's water efficiency.
- Whenever possible use mechanical methods of vegetation removal (e.g. mowing with tractor type or push mowers, hand cutting with gas or electric powered weed trimmers) rather than applying herbicides. Use hand weeding where practical.
- Collect lawn and garden clippings, pruning waste, tree trimmings, and weeds. Chip if necessary, and compost or dispose of at a landfill. Do not dispose of collected vegetation into waterways or storm drainage systems.
- Do not apply any chemicals (insecticide, herbicide, or fertilizer) directly to surface waters, unless the application is approved and permitted by the state.
- Use mulch or other erosion control measures on exposed soils.
- Check irrigation schedules so pesticides will not be washed away and to minimize non-storm water discharge.

(7) Building Maintenance

- Switch to non-toxic chemicals for maintenance when possible.

- Choose cleaning agents that can be recycled.
- Encourage proper lawn management and landscaping, including use of native vegetation.
- Encourage use of Integrated Pest Management techniques for pest control.
- Encourage proper onsite recycling of yard trimmings.
- Recycle residual paints, solvents, lumber, and other material as much as possible.
- Sweep paved areas regularly to collect loose particles, and wipe up spills with rags and other absorbent material immediately, do not hose down the area to a storm drain.
- Pressure Washing of Buildings, Rooftops, and Other Large Objects
 1. In situations where soaps or detergents are used and the surrounding area is paved, pressure washers must use a waste water collection device that enables collection of wash water and associated solids. A sump pump, wet vacuum or similarly effective device must be used to collect the runoff and loose materials. The collected runoff and solids must be disposed of properly.
 2. If soaps or detergents are not used, and the surrounding area is paved, wash water runoff does not have to be collected but must be screened. Pressure washers must use filter fabric or some other type of screen on the ground and/or in the catch basin to trap the particles in wash water runoff.
 3. If you are pressure washing on a grassed area (with or without soap), runoff must be dispersed as sheet flow as much as possible, rather than as a concentrated stream. The wash runoff must remain on the grass and not drain to pavement. Ensure that this practice does not kill grass.
- Building Repair, Remodeling, and Construction
 1. Do not dump any toxic substance or liquid waste on the pavement, the ground, or toward a storm drain.
 2. Use ground or drop cloths underneath outdoor painting, scraping, and sandblasting work, and properly dispose of collected material daily.
 3. Use a ground cloth or oversized tub for activities such as paint mixing and tool cleaning.

4. Clean paint brushes and tools covered with water-based paints in sinks connected to sanitary sewers or in portable containers that can be dumped into a sanitary sewer drain.
5. Brushes and tools covered with non-water-based paints, finishes, or other materials must be cleaned in a manner that enables collection of used solvents (e.g., paint thinner, turpentine, etc.) for recycling or proper disposal.
6. Use a storm drain cover, filter fabric, or similarly effective runoff control mechanism if dust, grit, wash water, or other pollutants may escape the work area and enter a catch basin. The containment device(s) must be in place at the beginning of the work day, and accumulated dirty runoff and solids must be collected and disposed of before removing the containment device(s) at the end of the work day.
7. If you need to de-water an excavation site, you may need to filter the water before discharging to a catch basin or off-site. In which case you should direct the water through hay bales and filter fabric or use other sediment filters or traps.
8. Store toxic material under cover with secondary containment during precipitation events and when not in use. A cover would include tarps or other temporary cover material.

- Mowing, Trimming, and Planting

1. Dispose of leaves, sticks, or other collected vegetation as garbage, by composting or at a permitted landfill. Do not dispose of collected vegetation into waterways or storm drainage systems.
2. Use mulch or other erosion control measures when soils are exposed.
3. Place temporarily stockpiled material away from watercourses and drain inlets, and berm or cover stockpiles to prevent material releases to the storm drain system.
4. Consider an alternative approach when bailing out muddy water; do not put it in the storm drain, pour over landscaped areas.
5. Use hand or mechanical weeding where practical.

- Fertilizer and Pesticide Management

1. Follow all federal, state, and local laws and regulations governing the use, storage, and disposal of fertilizers and pesticides and training of applicators and pest control advisors.
2. Follow manufacturers' recommendations and label directions
3. Do not apply insecticides within 100 feet of surface waters such as lakes, ponds, wetlands, and streams.
4. Use less toxic pesticides that will do the job, whenever possible. Avoid use of copper-based pesticides if possible.
5. Do not use pesticides if rain is expected.
6. Do not mix or prepare pesticides for application near storm drains.
7. Use the minimum amount needed for the job.
8. Calibrate fertilizer distributors to avoid excessive application.
9. Employ techniques to minimize off-target application (e.g. spray drift) of pesticides, including consideration of alternative application techniques.
10. Apply pesticides only when wind speeds are low.
11. Work fertilizers into the soil rather than dumping or broadcasting them onto the surface.
12. Irrigate slowly to prevent runoff and then only as much as is needed.
13. Clean pavement and sidewalk if fertilizer is spilled on these surfaces before applying irrigation water.
14. Dispose of empty pesticide containers according to the instructions on the container label.
15. Use up the pesticides. Rinse containers, and use rinse water as product. Dispose of unused pesticide as hazardous waste.
16. Implement storage requirements for pesticide products with guidance from the local fire department and County Agricultural Commissioner. Provide secondary containment for pesticides.

- Inspection

1. Inspect irrigation system periodically to ensure that the right amount of water is being applied and that excessive runoff is not occurring. Minimize excess watering, and repair leaks in the irrigation system as soon as they are observed.

- Spill Response and Prevention

1. Have spill cleanup materials readily available and in a known location.
2. Cleanup spills immediately and use dry methods if possible.
3. Properly dispose of spill cleanup material.



Elwha Water Treatment Plant

Best Management Practice - 12

Temporary Diversion Pump Facility

CERTIFICATION

The Best Management Practice, BMP-12 Temporary Diversion Pump Facility is the official policy of Veolia Water North America, West-LLC. Inc. for the Elwha Water Treatment Plant.

Certified this Date: _____

Certified by: _____ Title: _____

Approved by BMP Committee:

Approved by: _____ Title: _____

BMP Created by: Bruce Dorcy, Veolia Water Operator 1 Date: 07/12/2014

BM Reviewed BMP Committee:

Reviewer	Date:



Best Management Practice - 12

SIGN OFF SHEET

All operators are required to read and understand the Best Management Practice. The operator's name, signature and date attest to the review and understanding of the Best Management Practice identified at the top of this page.

[illegible]

Attachment B
BMP Incident Reports



EWTP

Spill/Release Incident Report

1. Date of Spill/Release: _____.
2. Time of Spill/Release: _____.
3. Location: _____.
4. Material Spilled/Released: _____.
5. Amount (Volume) Spilled/Released: _____. Unit of Measure: _____.
6. Cause of Spill/Release: _____.
7. Description of Scene (e.g., type of media contaminated (soil/water), distance to storm drain, if spill/release was contained):

_____.
8. Description of clean-up actions taken (e.g. how spill/release was contained (berm, absorbent pillows, etc.) where recovered material was placed, how much material was not recovered, remaining actions to be taken, etc.)

_____.
9. List all off-site emergency responders contacted:
_____.



EWTP BMP Incident Report

_____.

10. List of off-site responders at scene:

_____.

_____.

_____.

_____.

11. Action taken to prevent recurrence:

_____.

_____.

_____.

_____.

_____.

_____.

12. Follow up actions that will be needed and approximate time when follow up is required:

_____.

_____.

_____.

_____.

13. Name of Person making this report:

(print name and title). _____.

(contact information: mailing/phone). _____.

14. Project Manager Review:

This report was reviewed and determined to be complete and accurate:

(print name and title). _____.

(contact information: mailing/phone). _____.

Attachment C
Annual Site Inspection Report Form



EWTP

Annual Site Inspection Report Form

Due Date: _____.

Facility: Elwha Water Treatment Plant.

Date/Time of Inspection: _____ / _____.

Part I – Storm Water Monitoring Program Compliance			
		Yes	No
1.	Non-Storm Water Inspection performed and documented? <i>If NO, indicate reason:</i>		
2.	Storm Water Inspection performed and documented? <i>If NO, indicate reason:</i>		
3.	Have there been any corrective actions recommended as a result of site inspections? <i>If yes, have the actions been included in updates to the SWP2 plan? If corrective action updates have not been made, indicate the reason:</i>		

Part II – Review Storm Water Pollution Prevention Plan			
		Yes	No
1.	Are there any changes to the site operations/activities?		
2.	Are there any changes to storm water BMPs?		
3.	Are there any changes to potential pollutant sources or activities?		
4.	Are there any changes to storm water program personnel?		
5.	Has employee training been conducted and documented?		
	<i>If no, indicate reason:</i>		

Part III – Site Inspection			
		Yes	No
1.	Are preventive maintenance activities being implemented and documented? <i>(catch basins cleaned, parking areas cleaned, etc.)</i> <i>If NO, Indicate reason:</i>		
2.	Are housekeeping activities being implemented <i>(covered trash bins, wipe up drips and spills, place drip pans under leaking vehicles, clean oily parts before storing outside, etc.)</i> ? <i>If NO, indicate reason:</i>		

Part III Continued		Yes	No
3.	Are there any special storm water BMPs being implemented (<i>sediment erosion, curbs, spill prevention, etc.</i>)? <i>If NO, Indicate reason:</i>		
4.	Have spill prevention and response procedures been implemented and is spill prevention equipment operational and ready (<i>secondary containment, personnel training, inspection of chemical storage areas, etc.</i>)? <i>If NO, Indicate reason:</i>		
5.	Have sediment erosion controls been implemented? <i>If no, indicate reason:</i>		
6.	Are there any additional storm water controls recommended as a result of the site inspection? <i>If yes, describe:</i>		

Part IV – Update Best Management Practices Plan (BMP Plan)			
		Yes	No
1.	Have all updates been made to the SWP2 Plan? <i>If NO, Indicate reason:</i>		

Part V – Evaluation of Existing Best Management Practices (BMPs)				
BMP Description	Existing BMP	New BMP	Status	Implementation Schedule
BMP-01 Landscape Maintenance				
BMP-02 Parking and Roadway Area Maintenance				
BMP-03 Building Maintenance				
BMP-04 Outdoor Material Storage				
BMP-05 Diesel Generator				
BMP-06 Pump Stations				
BMP-07 Material Receiving				
BMP-08 Vehicle Operations				
BMP-09 Waste Handling and Disposal				
BMP-10 Spill Response and Cleanup				
BMP-11 Use of Coagulants and Polymers				
BMP-12 Temporary Diversion Pump Facility				
Other				

Status Codes:

E= Existing BMP

FI – Fully Implemented

PI = Partially Implemented

NI = Not Implemented

NA = Not Applicable

Part V – Continued			
		Yes	No
1.	<p>Do the existing BMPs appear to be effective in reducing the potential for storm water pollution?</p> <p><i>If NO, Indicate reason:</i></p>		
2.	<p>Are additional BMPs needed to address sources of pollutants at the site (i.e. more frequent inspections of certain areas of operations, changes in operations, etc.)?</p> <p><i>If YES, describe the BMPs needed to address sources of pollutants and a time schedule for implementation:</i></p>		

General Comments:

Name: _____

Signature: _____ Date: _____

Title: _____

Attachment D

**Non-Storm Water Discharge
Visual Inspection Form**



EWTP

Non-Storm Water Discharge Visual Inspection

Facility: Elwha Water Treatment Plant

Date/Time of Inspection: _____ / _____

Issue Being Evaluated	YES	NO	N/ A	COMMENTS (stains, odors, leaks, trash, debris, oil)
OUTFALL(S)				
Any water flowing? (If YES, define the source):				
Irrigation				
Water Line Flushing				
Broken Water Line				
Firefighting Activities				
Other				
Unknown (the connection to the source must be identified and eliminated as soon as possible.)				
SITE HOUSEKEEPING:				
Clean of debris (paper, leaves, etc.)?				
Storm drain inlets clean?				
VEHICLE MAINTENANCE/STORAGE				
Dirt and grease buildup?				
Clean of debris (paper, leaves, etc.)?				
Stains on the concrete or asphalt?				
MATERIAL STORAGE				
Are recyclable materials accumulating?				
Are stored drums covered?				
Are oily parts exposed to storm water contact?				

Continued

Issue Being Evaluated	YES	NO	N/A	COMMENTS (stains, odors, leaks, rash, debris, oil)
MATERIALS STORAGE AREAS (Continued)				
Are loading and unloading areas clean?				
Are potential pollutants properly stored beneath covered areas?				
Are areas around waste containers clean?				
VEHICLE FUELING AREAS				
Fuel stains evident?				
SITE CONSTRUCTION ACTIVITIES				
Materials covered?				
Erosion controls in place?				
Construction debris/litter exposed to storm water?				
Summary of recommended actions to eliminate unauthorized non-storm water discharges and reduce or prevent pollutants from contacting non-storm water discharges:				

Inspected by (print name/title) _____

Signature: _____

Attachment E

**Storm Water Discharge
Visual Inspection Form**



EWTP

Storm Water Discharge Visual Inspection

Facility: Elwha Water Treatment Plant

Date/Time of Inspection: _____ / _____ .

Issue Being Evaluated	YES	NO	N/A	COMMENTS (stains, odors, leaks, trash, debris, oil)
OUTFALL(S)				
Clean of debris (<i>paper, leaves, etc.</i>)?				
DISCHARGE WATER				
Turbidity?	Check one: Clear <input type="checkbox"/> Cloudy <input type="checkbox"/> Muddy <input type="checkbox"/>			
Oil and Grease Sheen Present				
Floating Material Present?				
Odors Present?				
Discoloration Present?				
SITE AREA(S)				
Are stored materials exposed to storm water contact?				
Are oily parts and/or drums exposed to storm water contact?				
Are the loading and unloading areas clean?				
Are areas around containers clean?				
Is there a buildup of oil and grease in the parking lots or equipment storage areas?				
Are there leaks or stains around drums or above ground storage tanks?				

Storm Water Discharge Visual Inspection (continued)

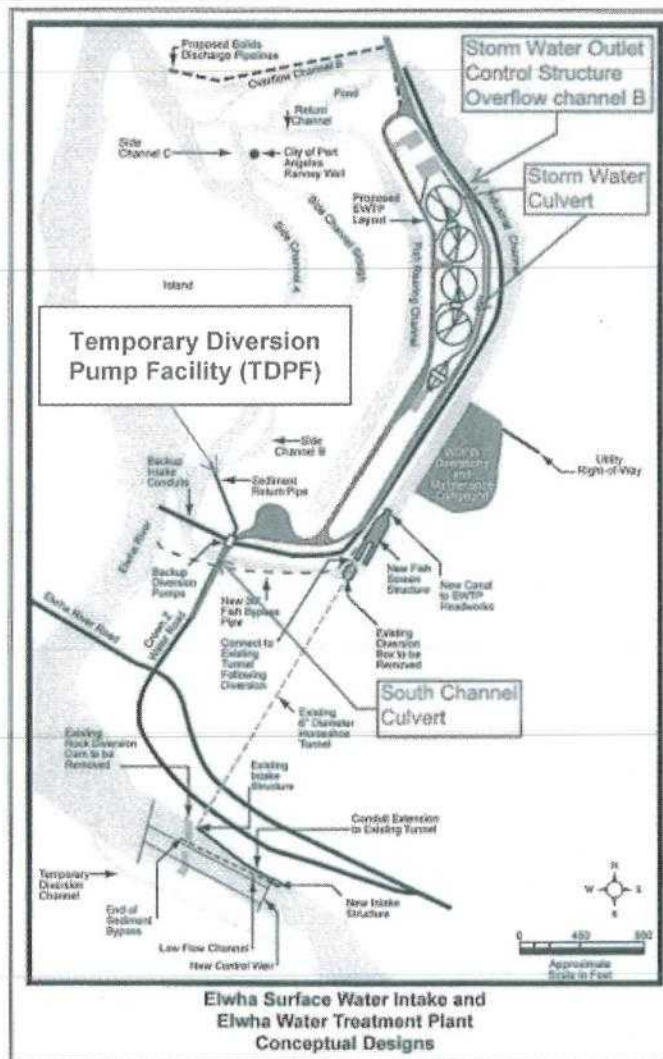
Are the drainage swales, catch basins and/or grates clean of debris (leaves, paper, etc.)?				
OTHER OBSERVATIONS				
RECOMMENDATIONS:				

Inspected by (print name/title) _____

Signature: _____

Attachment F Site Diagrams

Part XV of the BMP Plan Requirements of the NPDES permit read as follows: The BMP Plan must include "Final constructed site plans, drawings and maps (including detailed storm water outfall/culvert configurations)."



Source: National Parks Service, U.S. Department of the Interior. *Elwha River Ecosystem Rehabilitation Implementation: Final Supplement to the Final Environmental Impact Statement*. July 2005.